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## 100 GENERAL

**101 PURPOSE:** To limit emissions of volatile organic compounds (VOCs) from the application of commercial and industrial adhesive or sealant products, and from related solvents and strippers.

## 102 APPLICABILITY

102.1 Geographic: The provisions of this rule apply ~~only to facilities located in the Sacramento Valley Air Basin portion of Placer County, as defined by California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 1.5, Article 1, Section 60106.~~ all facilities applying adhesives in Placer County

102.2 Business Category: This rule is applicable to any person who:

102.2.1 Manufactures, sells, offers for sale, or uses an adhesive or sealant product; or

102.2.2 Uses a surface preparation solvent, a cleanup solvent, or a stripper; or

102.2.3 Supplies an adhesive or sealant product to the person who applies the product (i.e., the product user); or

102.2.4 Solicits, requires the use of, or specifies the application of any adhesive or sealant product, surface preparation solvent, cleanup solvent or stripper, whether or not such material complies with this rule.

**103 SEVERABILITY:** If any section, subsection, sentence, clause, phrase, or portion of this rule is, for any reason, held invalid, unconstitutional, or unenforceable by any court of competent jurisdiction, that portion shall be deemed as a separate, distinct, and independent provision, and the holding shall not affect the validity of the remaining portions of the rule.

## ~~103~~4 EXEMPTIONS

~~103.1 Exemption, Consumer Adhesives: Adhesives that subject to Article 2, Consumer Products, Sections 94507-94517, Title 17, California Code of Regulations, are exempt from all provisions of this rule.~~

104.1 Aerosol Cleaning Solvents: The requirements of Section 303 shall not apply to the use of aerosol cleaning solvents at the stationary source provided that the total usage of the aerosol cleaning solvents does not exceed 160 fluid ounces per day.

104.2 Contact Adhesives: The requirements of Section 302 shall not apply to contact adhesives subject to the Consumer Product Safety Commission regulations in 16 Code of Federal Regulations, Part 1302, provided that adhesives are sold in packages of 128 fluid ounces or less.

104.3 Cyanoacrylate Adhesives: The requirements of this rule shall not apply to cyanoacrylate adhesives.

104.4 Equipment Cleanup: The VOC requirements in Section 304 shall not apply to ethyl acetate used to clean adhesive application equipment when:

104.4.1 The equipment is used in the manufacturing of transdermal drug delivery products, and

104.4.2 Fewer than 3 gallons per day of ethyl acetate, averaged over a calendar month, are used.

104.5 Household Adhesives: The requirements of this rule shall not apply to household adhesives that are regulated by the State of California and that are defined in Section 231.

104.6 Low Usage: The requirements of Sections 302, 303 and 304.1 shall not apply to the materials used by the stationary source, if the total combined volume of these materials used at the stationary source does not exceed 55 gallons during any calendar year. Commercial and industrial operations that use such materials and that are exempted pursuant to this section shall comply with Section 501.

~~1034.27~~ Exemption, Low VOC Products Materials: The requirements of this rule shall not apply to materials ~~Any adhesive or sealant that contains containing less than~~ 20 grams/liter or less (0.17 pounds/gallon) of VOC, less water and exempt compounds, as applied, ~~is exempt from all provisions of this rule.~~

~~1034.48~~ Exemption, Operations Subject To Materials Regulated Under Other District Rules: ~~Operations subject to the following District rule are exempt from all provisions of this rule:~~ The requirements of this rule shall not apply to any material regulated by Rule 239, Graphic Arts Operations.

~~103.4.1 Rule 239, Graphic Arts Operations~~

104.9 Medical Equipment Manufacturing: The requirements of this rule shall not apply to solvent welding operations used in the manufacturing of medical devices, including, but not limited to, catheters, heart valves, blood cardioplegia machines, tracheotomy tubes, blood oxygenators, and cardiatory reservoirs.

104.10 Research and Development Operations: Sections 302, 303 and 304.1 shall not apply to the testing and evaluation of materials in research and development laboratories, quality assurance laboratories, or analytical laboratories, provided that these sources maintain records that comply with Section 501.

~~1034.311~~ Exemption, Small Container: The requirements of this rule shall not apply to materials ~~use of adhesive or sealant products~~ sold or supplied in non-reusable containers that are designed to hold no more than 8 fluid ounces of ~~adhesive or sealant products materials,~~ materials, ~~is exempt from all provisions of this rule.~~

~~103.5 Exemption, From Requirements of Other District Rules: Any adhesive or cleaning solvent subject to the VOC limitations of this rule is exempt from the requirements of Rule 219, Organic Solvents~~

104.12 Tire Repair: The requirements of this rule shall not apply to materials used for tire repair if such products are labeled by the manufacturer: "For Tire Repair Only."

104.13 Undersea Weapons: The requirements of this rule shall not apply to the manufacture, maintenance, or repair of undersea-based weapon systems.

104.14 Ultraviolet Light-Cured Adhesives: The requirements of this rule shall not apply to reactive adhesives that are cured through the application of ultraviolet light, electron beam, visible light, radio frequency, or microwaves.

~~103.6 Partial Exemption, Specific Businesses: The following business operations are exempt from the VOC limits of Table 3 of Section 302 of this rule:~~

~~103.6.1 Testing and evaluation of adhesive or sealant products in any research and development or analytical laboratories.~~

~~103.6.2 Solvent welding operations used in the manufacturing of medical devices.~~

~~103.6.3 Tire repair operations, provided the label on the adhesive used states "For Tire Repair Only".~~

~~103.6.4 Plaque laminating operations where adhesives are used to bond a clear, polyester acetate laminate to wood with lamination equipment installed prior to July 1, 1992. Any person seeking to claim this exemption shall notify the APCO in writing that a complying adhesive is not available.~~

~~103.6.5 Manufacturing operations of the following products: diving suits, rubber fuel bladders, inflatable boats, life preservers or other products designed for immersion in liquids. The adhesive products used by these operations must be labeled "For the bonding of immersible products only."~~

~~103.7 Partial Exemption, Contact Adhesives, VOC Standards: A contact adhesive used and labeled exclusively for any of the following applications, is exempt from the VOC content standard for "contact adhesive" in Table 2 of Section 302:~~

~~103.7.1 Single-ply roof membrane installation/repair;~~

~~103.7.2 Bonding of immersible products;~~

~~103.7.3 Bonding of flexible vinyl to flexible vinyl;~~

~~103.7.4 Bonding of plastic, rubber, or unprimed metal to plastic, rubber, or unprimed metal.~~

~~103.8 Partial Exemption, Contact Adhesives, Small containers, VOC Standards: Until December 1, 1999, Contact adhesives subject to the Consumer Product Safety Commission regulations in Title 16, Code of Federal Regulations, Part 1302 and sold in packages that contain one gallon, (128 fluid ounces) or less, are exempt from the requirements of Section 302.~~

~~103.9 Partial Exemption Volume, VOC Standards: Any person using adhesive or sealant products, surface preparation solvents, cleanup solvents, or strippers is exempt from the VOC content standards of this rule, provided the total combined volume of these materials used at any one stationary source in any calendar year, does not exceed 55 gallons. Commercial or industrial users of such materials that do not exceed this~~

~~low volume threshold, shall comply with all other provisions of this rule, including Section 501, RECORD-KEEPING.~~

~~103.10 Partial Exemption, Aerosol Adhesives VOC Standards: Aerosol Adhesives regulated by the California Air Resources Board, are exempt from the VOC standards of this rule, Sections 302 through 306. This partial exemption does not include Aerosol Adhesive Primers, which are subject to the VOC provisions in Section 303.~~

~~103.11 Partial Exemption, Cleanup Solvents:~~

~~103.11.1 Aerosol Cleanup Solvents: The use of 160 fluid ounces or less per day per stationary source of aerosol cleanup solvents is exempt from the requirements of Section 305.~~

~~103.11.2 Equipment Cleanup Medical: Materials used to clean adhesives application equipment, when such equipment is used in the manufacturing of transdermal drug delivery products, and fewer than 3 gallons per day of ethyl acetate, averaged over a 30 calendar day period, are used as the equipment cleaning solvent, are exempt from the requirements of Section 305.~~

~~103.12 Partial Exemption, Prohibition of Sale: The following materials, persons and businesses are exempt from the requirements of Section 401, Prohibition of Sale:~~

~~103.12.1 The adhesives in Table 3 of Section 302 and the contact adhesives in Section 103.7.~~

~~103.12.2 The contact adhesives in Section 103.8, until December 1, 1999.~~

~~103.12.3 A person who sells an adhesive or sealant product to a purchaser who has installed an air pollution control system pursuant to Section 307, provided that:~~

~~a. Prior to each sale the seller receives a letter, signed by the purchaser, stating that: the purchaser has installed an air pollution control system, approved by the Air Pollution Control Officer, for the purpose identified, and that emissions from applying the adhesive or sealant product will be controlled by that system, pursuant to Section 307; and:~~

~~b. The seller shall retain the purchaser's signed letter for three years from the date of receipt and shall make the letter available, on request, to the Air Pollution Control Officer.~~

~~103.12.4 Any supplier or seller of an adhesive or sealant product shipped outside the District for use outside the District.~~

~~103.12.5 Any manufacturer of an adhesive or sealant product if: the manufacturer has provided the VOC information required by Section 403, and the product was not sold directly to a user, or to a sales outlet located in the District; or the product was sold to~~

~~an independent distributor that is not a subsidiary of, or under the direct control of, the manufacturer.~~

~~104 SEVERABILITY: If any section, subsection, sentence, clause, phrase, or portion of this rule is, for any reason, held invalid, unconstitutional, or unenforceable by any court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions thereof.~~

## 200 DEFINITIONS

- 201 ACRYLONITRILE-BUTADIENE-STYRENE (ABS) WELDING ADHESIVE:** Any adhesive intended by the manufacturer to weld ABS pipe. ABS pipe is made by reacting monomers of acrylonitrile, butadiene, and styrene and is normally identified with an "AABS" marking.
- 202 ADHESIVE:** Any substance that is used to bond one surface to another surface by attachment.
- 203 ADHESIVE OR SEALANT PRODUCT:** Any adhesive, adhesive primer, aerosol adhesive, aerosol adhesive primer, sealant, or sealant primer, as sold by the manufacturer or as applied.
- 204 ADHESIVE PRIMER:** A coating applied to a substrate, prior to the application of an adhesive, to provide a bonding surface.
- 205 AEROSOL ADHESIVE:** An adhesive consisting of a mixture of rubber, resins, liquid and/or gaseous solvents, and propellants packaged in a hand-held, pressurized, non-refillable container. The container expels pressurized aerosol materials in a finely divided spray when a valve on the container is depressed.
- 206 ~~AEROSOL ADHESIVE~~ AEROSOL ADHESIVE PRIMER:** A primer used exclusively to provide a bonding surface on substrates for subsequent application of aerosol adhesives. It consists of a mixture of liquid and/or gaseous materials and propellants packaged in a hand-held, pressurized, non-refillable container. The container expels pressurized aerosol primer materials in a finely divided spray when a valve on the container is depressed.
- 207 AEROSOL CLEANING SOLVENT:** A material used as a surface preparation solvent, a cleanup solvent, or as a stripper and consisting of liquid and/or gaseous solvent and propellants packaged in a hand-held, pressurized, non-refillable container. The container expels pressurized aerosol materials in a finely divided spray when a valve on the container is depressed.
- ~~**208 AFFECTED POLLUTANT:**~~ Volatile organic compounds (VOC) as defined in Section 269.
- 2098 APPLICATION EQUIPMENT:** A device such as a spray gun, pot, hose, brush, roller, electrostatic sprayer, non-propellant spray bottle, or squeegee, used to apply an adhesive or sealant product, a surface preparation solvent, a cleanup solvent, or a stripper.
- 2409 ARCHITECTURAL SEALANT/PRIMER:** Any sealant or sealant primer intended by the manufacturer to be applied to stationary structures, including mobile homes, and their appurtenances. Appurtenances to an architectural structure include, but are not limited



to: hand railings, cabinets, bathroom and kitchen fixtures, fences, rain gutters and downspouts, and windows.

~~211 CAPTURE EFFICIENCY: Expressed in percent, capture efficiency, measured per Section 503.6, is the ratio of the weight of the VOC in the effluent stream entering a control device to the weight of the VOC emitted from adhesive/sealant operations, both measured simultaneously, and calculated by the following equation:~~

$$\text{Capture Efficiency} = \frac{W_c}{W_e} \times 100$$

~~Where:  $W_c$  = Weight of VOC entering the control device  
 $W_e$  = Weight of VOC emitted from the operation~~

210 AUTOMOTIVE GLASS ADHESIVE PRIMER: An adhesive primer labeled by the manufacturer to be applied to automotive glass prior to installation of the glass using an adhesive/sealant. This primer improves the adhesion to pinch weld and blocks ultraviolet light.

2121 CERAMIC TILE INSTALLATION ADHESIVE: Any adhesive intended by the manufacturer for the installation of ceramic tiles.

2132 CHLORINATED POLYVINYL CHLORIDE (CPVC) WELDING ADHESIVE: Any adhesive intended by the manufacturer to weld CPVC plastic pipe.

213 CHLORINATED POLYVINYL CHLORIDE (CPVC) PLASTIC: CPVC plastic is a polymer of the monomer that contains 67 percent chlorine and is normally identified with a CPVC marking.

**214 CLEANUP SOLVENT:** A VOC-containing material used to:

214.1 Remove a loosely held uncured (i.e., not dry to the touch) adhesive or sealant from a substrate, or

214.2 Clean equipment that was used to apply an adhesive or sealant product.

**215 CLOSED CONTAINER:** A covered receptacle which has no visible gaps where the cover and the main body of the receptacle meet.

**216 COMPUTER DISKETTE JACKET MANUFACTURING ADHESIVE:** Any adhesive intended by the manufacturer to bond the fold-over flaps to the body of a vinyl computer diskette jacket.

~~217 CONSUMER ADHESIVE: Any adhesive subject to Title 17 of the California Code of Regulations, Article 2, Consumer Products, beginning at Section 94507 and as amended from time to time. "Consumer Adhesive" does not include:~~

~~217.1 Units of product, less packaging, that weigh more than one pound or have a volume of more than 16 fluid ounces.~~

~~217.2 Sealants or caulking compounds.~~

~~217.3 Plastic cement welding adhesive and plastic cement welding adhesive primer.~~

**2187 CONTACT ADHESIVE:** An adhesive that forms an instantaneous bond that cannot be repositioned when substrates, on which the adhesive is applied and allowed to dry, are brought together using momentary pressure.

**2198 CONTROL DEVICE:** Equipment that is utilized as part of an emission control system, and which destroys, absorbs or otherwise eliminates or reduces the emission of Volatile Organic Compounds from adhesive/sealant operations.

~~**220 CONTROL EFFICIENCY:** Expressed in percent, control efficiency, measured per Section 503.5, is the ratio of the weight of the VOC removed by the control device from the effluent stream entering the control device to the weight of VOC in the effluent stream entering the control device, both measured simultaneously. Control efficiency is calculated by the following equation:~~

$$\text{Control Efficiency} = \frac{(W_c - W_a)}{W_c} \times 100$$

~~Where:  $W_c$  = Weight of VOC entering the control device  
 $W_a$  = Weight of VOC discharged from the control device~~

**22419 COVE BASE INSTALLATION ADHESIVE:** Any adhesive intended by the manufacturer for the installation of cove base (or wall base), which is generally made of vinyl or rubber, onto a wall or vertical surface at floor level.

**2220 CURED:** Dry to the touch.

**221 CYANOACRYLATE ADHESIVE:** An adhesive with a cyanoacrylate content of at least 90% by weight and which emits less than 20 grams per liter of VOC as determined pursuant to Section 502.11.

**2232 DRYWALL INSTALLATION:** The installation of gypsum drywall to studs or solid surfaces.

**2243 ENCLOSED GUN CLEANER:**

2243.1 A device that is used for the cleaning of spray guns, pots, cups, and hoses, that has a closed solvent container, is not open to the ambient air when in use, and has a mechanism to force the cleanup material through the gun while the cleaner is in operation; or

2243.2 A device that is used for the cleaning of spray guns, pots, cups, and hoses, that has a closed solvent container, uses non-atomized solvent flow to flush the spray equipment, and collects and returns the discharged solvent to the closed container.

**2254 EXEMPT COMPOUNDS:** For the purposes of this rule, "Exempt Compounds" are as defined in Rule 102, Definitions.

- 2265 FIBERGLASS:** A fiber made of fine filaments of glass that is similar in appearance to wool or cotton fiber.
- 2276 FLEXIBLE VINYL:** A nonrigid polyvinyl chloride plastic with at least five percent, by weight, of plasticizer content, as determined per Section 5032.8.
- 227 FLEXIBLE VINYL ADHESIVE:** An aerosol adhesive designed to bond flexible vinyl to substrates.
- 228 HAND APPLICATION METHODS:** The application of an adhesive or sealant product by manually held equipment. Such equipment includes: paint brushes, hand rollers, trowels, spatulas, daubers, rags, sponges, and mechanically or pneumatically driven syringes that do not atomize the applied products.
- 229 HIGH PRESSURE LAMINATE:** Sheets of materials, consisting of paper, fabric, or other core material, that have been laminated at temperatures exceeding 265 degrees F, and at pressures between 1,000 and 1,400 pounds per square inch.
- 22930 HIGH-VOLUME LOW-PRESSURE (HVLP) APPLICATION EQUIPMENT:** Equipment used to apply coating by means of a spray gun which is designed to be operated, and which is operated between 0.1 and 10.0 pounds per square inch gauge (psig) air pressure, measured dynamically at the center of the air cap and at the air horns.
- 231 HOUSEHOLD ADHESIVE:** An adhesive subject to Title 17, California Code of Regulations, Sections 94507-94517 (Consumer Products). Household adhesives do not include units of product, less packaging, that weigh more than one pound or contain more than 16 fluid ounces.
- 2302 INDOOR FLOOR COVERING INSTALLATION ADHESIVE:** Any adhesive intended by the manufacturer for the installation of wood flooring, carpet, carpet pads, rubber flooring, resilient tile, vinyl tile, vinyl backed carpet, resilient sheet and roll, or artificial grass. Such installed materials are in an enclosure and are not exposed to ambient weather conditions during normal use. Indoor floor covering installation does not include ceramic tile installation or subfloor installation.
- 2313 KEY SYSTEM OPERATING PARAMETER:** ~~A variable that is critical to the operation of an emission control system and that ensures both operation of the system within the system manufacturer's specifications, and compliance with the overall system efficiency standard required by Section 307. Such variables may include, but are not limited to, hours of operation, temperature, flow rate, and pressure.~~ A variable that is critical to the operation of an emission control system and that ensures both operation of the system within the system manufacturer's specifications, and compliance with the overall system efficiency standard required by Section 305. Such variables may include, but are not limited to, hours of operation, temperature, flow rate, and pressure.
- 2324 LEAK:** A visible liquid solvent loss or a solvent vapor (mist) loss from unintended openings in a container.
- 2335 LOW-SOLIDS MATERIAL:** ~~Any adhesive or sealant product, surface preparation solvent, cleanup solvent, or stripper~~ A material containing no more than 120 grams of solids per liter (1.0 pound of solids per gallon) of product.

- 2346 LOW-VOLUME LOW-PRESSURE (LVLP) APPLICATION EQUIPMENT:** Spray coating application equipment with air pressure between 0.1 and 10.0 pounds per square inch gauge (psig) and air volume less than 15.5 cubic feet per minute (cfm) per spray gun and which operates at a maximum fluid delivery pressure of 50 psig.
- 2357 MARINE DECK SEALANT/SEALANT PRIMER:** Any sealant or sealant primer intended by the manufacturer to seal gaps on wooden marine decks.
- 238 MATERIAL:** Any material containing VOC including but not limited to an adhesive, adhesive primer, aerosol adhesive, aerosol adhesive primer, sealant, sealant primer, catalyst, colorant, stripper, or solvents used in cleaning.
- 2369 METAL TO URETHANE/RUBBER MOLDING OR CASTING ADHESIVE:** Any adhesive intended by the manufacturer to bond metal to high-density or elastomeric urethane or molded rubber materials, in heater molding or casting processes, to fabricate products such as rollers for computer printers or other paper handling equipment.
- 23740 MULTIPURPOSE CONSTRUCTION ADHESIVE:** Any adhesive intended by the manufacturer for the installation or repair of various construction materials, including, but not limited to, drywall, subfloor, panel, fiberglass reinforced plastic, ceiling tile, and acoustical tile.
- 241 NONCOMPLIANT MATERIAL:** A material that:
- 241.1 exceeds the VOC content limits specified in Sections 302, 303, and 304.1, and is not exempt pursuant to Section 104 and which is not used with emission control equipment pursuant to Section 305; or
- 241.2 exceeds the VOC content limit and/or composite vapor pressure limit, as applicable, in Section 304.1 and which is not used with emission control equipment pursuant to Section 305.
- 23842 NON-MEMBRANE ROOF INSTALLATION/REPAIR ADHESIVE/SEALANT:** Any adhesive or sealant intended by the manufacturer for the installation or repair of non-membrane roofs, but is not intended for the installation of prefabricated single-ply roof membrane. With regard to non-membrane roof installation/repair adhesives, this category includes plastic or asphalt roof cement, asphalt roof coatings, and cold application cement.
- 243 NON-POROUS MATERIAL:** A material which does not have tiny openings, often microscopic, to allow the absorption or discharge of fluids.
- 23944 OUTDOOR FLOOR COVERING INSTALLATION ADHESIVE:** Any adhesive intended by the manufacturer for the installation of floor covering that is not in an enclosure and is exposed to ambient weather conditions during normal use. Outdoor floor covering installation does not include ceramic tile installation or subfloor installation.
- 2405 PANEL INSTALLATION:** The installation of plywood, pre-decorated hardboard, tile board, fiberglass reinforced plastic, and similar pre-decorated or non-decorated panels to studs or solid surfaces.
- 2416 PLASTIC:** A synthetic material chemically formed by the polymerization of organic (carbon-based) substances.
- 2427 PLASTIC CEMENT WELDING ADHESIVE:** Any adhesive made of resins and solvents that is formulated to dissolve the surfaces of plastic to form a bond between mating surfaces.

- 2438 PLASTIC CEMENT WELDING ADHESIVE PRIMER:** Any primer intended by the manufacturer to prepare plastic substrates prior to bonding or welding.
- 249 PLASTICIZER:** A material, such as a high boiling point organic solvent, that is incorporated into a vinyl to increase its flexibility, workability, or distensibility, as determined by ASTM Method E-260-96.
- 24450 POLYVINYL CHLORIDE (PVC) WELDING ADHESIVE:** Any adhesive intended by the manufacturer to weld PVC plastic pipe.
- 24551 POLYVINYL CHLORIDE (PVC) WELDING SEALANT:** A sealant designed to adhere to polyvinyl chloride (PVC) by dissolving its surface and to fill or seal gaps between PVC surfaces or between PVC and other surfaces.
- 24652 POROUS MATERIAL:** A material whose surface is permeable to liquids; such materials include, but are not limited to, foam, paper, corrugated paperboard, stone, and wood.
- 24753 PROPELLANT:** A fluid under pressure that expels the contents of a container when a valve is opened.
- 254 REACTIVE ADHESIVE:** An adhesive containing 20 grams or less per liter (0.17 lbs/gal) of VOCs, less water and exempt compounds, as applied, that cures upon exposure to ultraviolet light, electron beam, visible light, radio frequency, or microwave.
- 24855 ROADWAY SEALANT:** Any sealant intended by the manufacturer to be applied to public streets, highways, and related surfaces such as curbs, berms, driveways, and parking lots.
- 24956 RUBBER:** Any natural or manmade rubber substrate, including, but not limited to: styrene-butadiene rubber, polychloroprene (neoprene), butyl rubber, nitrile rubber, chlorosulfonated polyethylene, and ethylene propylene diene terpolymer.
- 25057 RUBBER FLOORING:** Flooring material in which both the back and the top surface are made of synthetic rubber, and which may be in sheet or tile form.
- 25158 SEALANT:** Any material with adhesive properties that is applied as a rope or bead and that is formulated for use primarily to fill, seal, waterproof, or weatherproof gaps or joints between two surfaces. Sealants include caulks. Sealants do not include sealers that are applied as continuous coatings.
- 25259 SEALANT PRIMER:** Any material intended by the manufacturer for application to a substrate, prior to the application of a sealant, to enhance the bonding surface.
- 25360 SINGLE-PLY ROOF MEMBRANE:** A single sheet of rubber, normally ethylene-propylene diene polymer, that is applied in a single layer to a building roof (normally a flat roof).
- 261 SOLVENT WELDING:** The softening of the surfaces of two substrates by wetting them with a solvent and/or adhesive, and joining them together using a chemical and/or physical reaction(s) to form a fused union.

**25462 SOLID MATERIAL:** The nonvolatile portion of an adhesive or sealant product, surface preparation solvent, cleanup solvent, or stripper that remains after heating a sample of the product at 110°C for one hour.

**25563 SOLVENT WELDING:** The softening of the surfaces of two substrates by wetting them with a solvent and/or adhesive, and joining them together with a chemical and/or physical reaction(s) to form a fused union.

**25664 STATIONARY SOURCE:** Any building, structure, facility, or emissions unit which emits or may emit any **affected** pollutant directly or as a fugitive emission. This includes all pollutant-emitting activities which:

25664.1 Belong to the same industrial grouping, and

25664.2 Are located on one property or on two or more contiguous properties, and

25664.3 Are under the same or common ownership, operation, or control or which are owned or operated by entities which are under common control.

Pollutant-emitting activities shall be considered as part of the same industrial grouping if they:

25664.4 Belong to the same two-digit standard industrial classification code, or

25664.5 Are part of a common production process. (Common production process includes industrial processes, manufacturing processes and any connected processes involving a common material.)

**25765 STRIPPER:** A liquid used to remove cured adhesives and/or cured sealants.

**25866 STRUCTURAL GLAZING ADHESIVE:** Any adhesive intended by the manufacturer to adhere glass, ceramic, metal, stone, or composite panels to exterior building frames.

**25967 SUBFLOOR INSTALLATION:** The installation of subflooring material, typically plywood, over flooring joists. Subfloor installation includes the construction of any load bearing joints in joists or trusses. Subflooring is covered by a finished surface material.

**2608 SUBSTRATE:** The material onto which an adhesive or sealant product, surface preparation solvent, cleanup solvent, or stripper is applied.

**2649 SURFACE PREPARATION SOLVENT:** Any VOC-containing material used to remove contaminants such as dust, soil, oil, grease, etc., from a substrate prior to the application of an adhesive or sealant product.

**26270 THIN METAL LAMINATING ADHESIVE:** Any adhesive intended by the manufacturer to bond multiple layers of metal to metal or metal to plastic in which the thickness of the bond line(s) is less than 0.025 mils (0.000025 inches).

**26371 TIRE REPAIR:** To mend a hole, tear, fissure, blemish, or defect in a tire casing by grinding and/or gouging, applying adhesive, and attaching replacement rubber.

**26472 TIRE RETREAD ADHESIVE:** An adhesive applied to the back of precured tread rubber and to the casing and cushion rubber. Tire retread adhesive may also be used to seal buffed tire casings to prevent oxidation while the tire is being prepared for a new tread.

**26573 TRAFFIC MARKING TAPE ADHESIVE PRIMER:** An adhesive primer intended by the manufacturer to be applied to surfaces prior to the installation of traffic marking tape. Traffic marking tape is a pre-formed reflective film intended by the manufacturer to be applied to public streets, highways, and other surfaces including, but not limited to, curbs, berms, driveways, and parking lots. It is not one of the "Traffic Coatings" included in and defined in Rule 218, Architectural Coatings.

~~266 VOC COMPOSITE PARTIAL PRESSURE: VOC composite partial pressure is the sum of the partial vapor pressures of the compounds defined as VOCs, and shall be calculated by the following equation~~

$$PP_c = \frac{\sum_{i=1}^n (W_i)(VP_i) / MW_i}{\frac{W_w}{MW_w} + \sum_{i=1}^n \frac{W_e}{MW_e} + \sum_{i=1}^n \frac{W_i}{MW_i}}$$

Where:

~~PP<sub>c</sub> = VOC composite partial pressure at 20°C, in mm mercury.~~  
~~W<sub>i</sub> = Weight of the "i"th VOC compound, in grams, as determined by ASTM E 260-91.~~  
~~W<sub>w</sub> = Weight of water, in grams as determined by ASTM D 3792-86.~~  
~~W<sub>e</sub> = Weight of the A1@th exempt compound, in grams, as determined by ASTM E 260-91.~~  
~~Mw<sub>i</sub> = Molecular weight of the A1@th VOC compound, in grams per g-mole, as given in chemical reference literature.~~  
~~Mw<sub>w</sub> = Molecular weight of water, 18 grams per g-mole.~~  
~~Mw<sub>e</sub> = Molecular weight of the A1@th exempt compound, in grams per g-mole, as given in chemical reference literature.~~  
~~Vp<sub>i</sub> = Vapor pressure of the A1@th VOC compound at 20°C, in mm Hg, as determined by Section 502.10 of this rule.~~

~~267 VOC CONTENT PER LITER OF MATERIAL: The weight (in grams) of VOC per volume (in liters) of adhesive or sealant product is expressed as Agrams of VOC per liter of material@ and shall be calculated using the following formula:~~

$$\text{Grams of VOC per liter of material} = \frac{W_{vc} - W_w - W_{ec}}{V_m}$$

Where:

~~W<sub>vc</sub> = Weight of all volatile compounds, in grams.~~  
~~W<sub>w</sub> = Weight of water, in grams.~~  
~~W<sub>ec</sub> = Weight of exempt compounds identified in Section 225, in grams.~~

~~$V_m$  = Volume of material, as supplied by the manufacturer, in liters.~~

~~**268 VOC CONTENT PER VOLUME OF PRODUCT, LESS WATER AND EXEMPT COMPOUNDS:** The weight (in grams) of VOC per combined volume (in liters) of VOC plus solid materials in an adhesive or sealant product is expressed as Agrams of VOC per liter of product, less water and exempt compounds@ and shall be calculated using the following equation:~~

$$\text{Grams of VOC per liter of product, less water and less exempt compounds} = \frac{W_{ve} - W_w - W_{ee}}{V_m - V_w - V_{ee}}$$

~~Where:  $W_{ve}$  = Weight of all volatile compounds, in grams.  
 $W_w$  = Weight of water, in grams.  
 $W_{ee}$  = Weight of exempt compounds identified in Section 225, in grams.  
 $V_m$  = Volume of material, as supplied by the manufacturer, in liters.  
 $V_w$  = Volume of water, in liters.  
 $V_{ee}$  = Volume of exempt compounds identified in Section 225, in liters.~~

~~**269 VOC PERCENT OF MATERIAL BY WEIGHT:** The percent of VOC by weight is the ratio of the weight of the VOC to the weight of the aerosol adhesive primer as supplied by the manufacturer, expressed as Apercent of VOC by weight@, and shall be calculated using the following formula:~~

$$\text{Percent of VOC by weight} = \frac{W_{voc}}{W_p} \times 100$$

~~Where:  $W_{voc}$  = Weight of VOCs in grams.  
 $W_p$  = Weight of the aerosol adhesive primer, as supplied by the manufacturer, in grams.~~

**2704 VOLATILE ORGANIC COMPOUND (VOC):** Any chemical compound containing at least one atom of carbon, except for the exempt compounds listed in Rule 102, Definitions.

**275 VOLATILE ORGANIC COMPOUND (VOC) AS APPLIED:** A VOC as applied, means the VOC content of the material as applied including thinners, reducers, hardeners, retarders, catalysts and additives, and calculated pursuant to Section 502.1.

**276 VOLATILE ORGANIC COMPOUND (VOC) AS SUPPLIED:** A VOC as supplied, means the VOC content of the original material as supplied by the manufacturer, and calculated pursuant to Section 502.1.

**2717 WATERPROOF RESORCINOL GLUE:** A two-part resorcinol resin based adhesive designed for applications where the bond line must be resistant to conditions of continuous immersion in fresh or salt water.

**2728 WIPE CLEANING:** The method of cleaning a surface by physically rubbing it with a material such as a rag, paper, abrasive pad, brush, or a cotton swab moistened with a solvent.

**2739 WOOD FLOORING:** A wood floor surface, which may be in the form of parquet tiles, planks, or strip-wood.



## 300 STANDARDS

### 301 MATERIAL APPLICATION METHODS:

301.1 A person shall not use any methods to apply any adhesive or sealant product except the following:

- 301.1.1~~a.~~ Hand application.
- 301.1.2~~b.~~ Dip coat.
- 301.1.3~~c.~~ Flow coat.
- 301.1.4~~d.~~ Brush or roll coat.
- 301.1.5~~e.~~ Electrodeposition.
- 301.1.6~~f.~~ Electrostatic spray.
- 301.1.7~~g.~~ High-volume low-pressure (HVLP) application equipment.
- 301.1.8~~h.~~ Low-volume low-pressure (LVLP) application equipment.
- 301.1.9~~i.~~ Aerosol cans.
- 301.1.10~~j.~~ Airless sprayer (For applying contact adhesives, only)
- 301.1.11~~k.~~ Air-assisted airless sprayer (For applying contact adhesives, only)
- 301.1.12~~l.~~ Air-atomized sprayer (For applying contact adhesives, only)
- 301.1.13~~m.~~ Any other equivalent method approved in writing by the Air Pollution Control Officer and submitted to and approved by the United States Environmental Protection Agency.

301.2 A person shall not use any methods to apply any surface preparation solvent, cleanup solvent, or stripper except the following:

- 301.2.1~~a.~~ Wipe cleaning.
- 301.2.2~~b.~~ Non-propellant spray bottles or containers.
- 301.2.3~~c.~~ An enclosed gun cleaner as defined by Section 22~~4~~3.
- 301.2.4~~d.~~ Soaking application equipment parts in a closed container.

~~(STANDARDS continues on the next page)~~

302 **VOC CONTENT LIMITS, ADHESIVES, ADHESIVE PRIMERS, SEALANTS AND SEALANT PRIMERS:** ~~Except as provided in Section 306, a person shall not apply an adhesive or adhesive primer that exceeds the VOC content limit, as applied (as determined per Section 268), in the following three tables:~~

302.1 A person shall not apply a material that has a VOC content, as applied, as determined per Section 502.1, in excess of the limits listed in the six tables listed in this section. For low solids material only, the VOC content shall be calculated based on grams per liter of material or pounds per gallon of material including water and exempt compounds. For all other materials, the VOC content shall be calculated in grams per liter of material or pounds per gallon of material, less water and exempt compounds.

<b>TABLE 302 - 1</b> <b>VOC CONTENT FOR ADHESIVES/ADHESIVE PRIMERS</b>		
<b>Type of Adhesive/Adhesive Primer</b>	<b><u>Prior to December 1, 1998</u> VOC Content gm/liter (lb/gal) less water and exempt compounds</b>	<b><u>Effective December 1, 1998</u> VOC Content gm/liter (lb/gal) less water and exempt compounds</b>
ABS Welding Adhesive	400 (3.3)	400 (3.3)
Automotive Glass Adhesive Primer	700 (5.7)	700 (5.7)
Ceramic Tile Installation Adhesive	150 (1.2)	130 (1.1)
Computer Diskette Jacket Mfg. Adhesive	850 (6.9)	850 (6.9)
Cove Base Installation Adhesive	200 (1.6)	150 (1.2)
CPVC Welding Adhesive	490 (4.0)	490 (4.0)
Indoor Floor Covering Installation Adhesive	150 (1.2)	150 (1.2)
Metal to Urethane/Rubber Molding or Casting Adhesive	850 (6.9)	250 (2.0)
Multipurpose Construction Adhesive	200 (1.6)	200 (1.6)
Non-Membrane Roof Install./Repr. Adhes	300 (2.5)	300 (2.5)
Outdoor Floor Covering Install. Adhesive	250 (2.0)	250 (2.0)
Plastic Cement Welding Adhesive Primer	650 (5.3)	650 (5.3)
PVC Welding Adhesive	510 (4.2)	510 (4.2)
Single-Ply Roof Membrane Installation/Repair Adhesive	650 (5.3)	250 (2.0)
Structural Glazing Adhesive	100 (0.8)	100 (0.8)
Thin Metal Laminating Adhesive	780 (6.4)	250 (2.0)

Tire Retread Adhesive	100 (0.8)	100 (0.8)
Traffic Marking Tape Adhesive Primer	550 (4.5)	150 (1.2)
Waterproof Resorcinol Glue	170 (1.4)	170 (1.4)
Other Plastic Cement Welding Adhesive	450 (3.7)	450 (3.7)
Other Adhesive Primer	250 (2.0)	250 (2.0)

<p align="center"><b><u>TABLE 302-1</u></b> <b><u>VOC CONTENT FOR ADHESIVES</u></b></p>	
<b><u>Adhesive</u></b>	<b><u>VOC Content</u> <u>gm/l (lb/gal)</u></b>
<u>ABS Welding Adhesive</u>	<u>400 (3.3)</u>
<u>Ceramic Tile Installation Adhesive</u>	<u>130 (1.1)</u>
<u>Computer Diskette Jacket Manufacturing Adhesive</u>	<u>850 (6.9)</u>
<u>Cove Base Installation Adhesive</u>	<u>150 (1.2)</u>
<u>CPVC Welding Adhesive</u>	<u>490 (4.0)</u>
<u>Indoor Floor Covering Installation Adhesive</u>	<u>150 (1.2)</u>
<u>Metal to Urethane/Rubber Molding or Casting Adhesive</u>	<u>250 (2.0)</u>
<u>Multipurpose Construction Adhesive</u>	<u>200 (1.6)</u>
<u>Non-Membrane Roof Installation/Repair Adhesive</u>	<u>300 (2.5)</u>
<u>Outdoor Floor Covering Installation Adhesive</u>	<u>250 (2.0)</u>
<u>Perimeter Bonded Sheet Vinyl Flooring Installation Adhesive</u>	<u>660 (5.4)</u>
<u>PVC Welding Adhesive</u>	<u>510 (4.2)</u>
<u>Single-Ply Roof Membrane Installation/Repair Adhesive</u>	<u>250 (2.0)</u>
<u>Structural Glazing Adhesive</u>	<u>100 (0.8)</u>
<u>Thin Metal Laminating Adhesive</u>	<u>780 (6.4)</u>
<u>Tire Retread Adhesive</u>	<u>100 (0.8)</u>
<u>Waterproof Resorcinol Glue</u>	<u>170 (1.4)</u>
<u>Other Plastic Cement Welding Adhesive</u>	<u>450 (3.7)</u>

<b>TABLE 302-2</b> <b>VOC CONTENT FOR ADHESIVE PRIMERS</b>	
<u>Adhesive Primer</u>	<u>VOC Content</u> <u>gm/l (lb/gal)</u>
<u>Automotive Glass</u>	<u>700 (5.7)</u>
<u>Plastic Cement Welding</u>	<u>400 (3.3)</u>
<u>Single-Ply Roof Membrane</u>	<u>250 (2.0)</u>
<u>Traffic Marking Tape</u>	<u>150 (1.2)</u>
<u>Other</u>	<u>250 (2.0)</u>

<b>TABLE 302-23</b> <b>VOC CONTENT FOR CONTACT ADHESIVES</b>	
<b>Product</b>	<b>VOC Content</b> <b>gm/liter (lb/gal) less water</b> <b>and exempt compounds</b>
Contact Adhesive <u>including</u> <u>Speciality Substrates</u>	200 (1.6)

<b>TABLE 302-4</b> <b>VOC CONTENT FOR SEALANTS</b>	
<u>Type of Sealant</u>	<u>VOC Content</u> <u>gm/l (lb/gal)</u>
<u>Architectural</u>	<u>250 (2.0)</u>
<u>Marine Deck</u>	<u>760 (6.2)</u>
<u>Non-membrane Roof Installation/Repair</u>	<u>300 (2.5)</u>
<u>Roadway Sealant</u>	<u>250 (2.0)</u>
<u>Single-Ply Roof Membrane Sealant</u>	<u>450 (3.7)</u>
<u>Other</u>	<u>420 (3.4)</u>

<b><u>TABLE 302-5</u></b> <b><u>VOC CONTENT FOR SEALANT PRIMERS</u></b>	
<b><u>Type of Sealant Primer</u></b>	<b><u>VOC Content gm/l (lb/gal)</u></b>
<u>Architectural - Non-Porous</u>	<u>250 (2.0)</u>
<u>Architectural - Porous</u>	<u>775 (6.3)</u>
<u>Marine Deck</u>	<u>760 (6.2)</u>
<u>Other</u>	<u>750 (6.1)</u>

<b><u>TABLE 302-6</u></b> <b><u>VOC CONTENT FOR ADHESIVE APPLICATIONS ONTO SUBSTRATES</u></b>	
<u>The standards in this table apply to applications not specifically identified in Tables 1, 2, 3, 4, or 5. In this table, if an adhesive is used to bond two different types of substrates with different VOC limits, then the higher of the two VOC limits shall apply.</u>	
<b><u>Type of Substrate</u></b>	<b><u>VOC Content gm/l (lb/gal)</u></b>
<u>Flexible Vinyl</u>	<u>250 (2.0)</u>
<u>Fiberglass</u>	<u>200 (1.6)</u>
<u>Metal</u>	<u>30 (0.2)</u>
<u>Porous Material</u>	<u>120 (1.0)</u>
<u>Rubber</u>	<u>250 (2.0)</u>
<u>Other Substrates</u>	<u>250 (2.0)</u>

**TABLE 302-3**  
**VOC CONTENT FOR APPLICATION OF OTHER ADHESIVES ONTO SPECIFIC**  
**SUBSTRATES**

(Pertains only to Adhesives Other Than those in Tables 302-1, 302-2 and 303)

**Note:** If two different types of substrates are to be bonded together and if the applicable VOC content limits in this table are not the same for each substrate, the higher of the two limits shall apply, unless specified otherwise.

<b>Adhesive Applications Onto Substrates</b>	<b><u>Prior to December 1, 1998</u> VOC Content gm/liter (lb/gal) less water and exempt compounds</b>	<b><u>Effective December 1, 1998</u> VOC Content gm/liter (lb/gal) less water and exempt compounds</b>
Adhesive Applied in Bonding: <b>Flexible Vinyl to Flexible Vinyl</b>	660 (5.4)	250 (2.0)
Adhesive Applied in Bonding: <b>Flexible Vinyl to Any Other Substrate</b>	250 (2.0)	250 (2.0)
Adhesive Applied to: <b>Fiberglass</b>	200 (1.6)	200 (1.6)
Adhesive Applied to: <b>Metal</b>	30 (0.2)	30 (0.2)
Adhesive Applied to: <b>Plastic Foam</b>	120 (1.0)	120 (1.0)
Adhesive Applied to: <b>Porous Material (e.g., Wood (but not a Plastic), and Plastic Foam)</b>	150 (1.2)	120 (1.0)
Adhesive Applied to: <b>Rubber</b>	650 (5.3)	250 (2.0)
Adhesive Applied to: <b>Other Substrates</b>	250 (2.0)	250 (2.0)

- 303 VOC CONTENT LIMITS, AEROSOL ADHESIVES AND ADHESIVE PRIMERS:** ~~A person shall not apply any aerosol adhesive primer if the VOC content, including the propellant, exceeds the percentage value in the following table:~~

<b>TABLE 303</b> <b>MAXIMUM VOC CONTENT PERCENTAGES FOR AEROSOL ADHESIVE PRIMERS</b> <b>(Percent of VOC by Weight Calculated Pursuant to Section 269)</b>	
<b>Type of Aerosol</b>	<b>VOC Content Limit</b>
Aerosol Adhesive Primer	75%

~~303.1 A person shall not use any aerosol adhesive or aerosol adhesive primer unless the VOC content, including the propellant, is no greater than 75 percent by weight as determined by Sections 407 and 502.2.~~

303.21 A person shall not use an aerosol adhesive and adhesive primers unless the adhesive complies with the VOC limit specified in the table below, in percent by weight, as determined by Sections 407 and 502.2 .

<b>Table 303.1</b> <b>MAXIMUM VOC CONTENT FOR AEROSOL ADHESIVES AND ADHESIVE PRIMERS</b>	
<b>Type of Aerosol Adhesive</b>	<b>VOC % by Weight</b>
<u>Adhesives – Aerosol</u>	
<u>Mist Spray Adhesives</u>	<u>65%</u>
<u>Web Spray Adhesives</u>	<u>55%</u>
<u>Special Purpose Spray Adhesives:</u>	
<u>Mounting, Automotive Engine Compartment, and Flexible Vinyl Adhesives</u>	<u>70%</u>
<u>Polystyrene Foam and Automobile Headliner Adhesives</u>	<u>65%</u>
<u>Polyolefin and Laminate Repair/Edgebanding Adhesives</u>	<u>60%</u>

303.2 No person shall manufacture for use in the District any aerosol adhesive which contains methylene chloride, perchloroethylene, or trichloroethylene, except that an aerosol adhesive manufactured before January 1, 2002 may be sold, supplied, or offered for sale until January 1, 2005, as long as the product container or package displays the date on which the product was manufactured, or a code indicating such date.

- ~~**304 VOC CONTENT LIMITS SEALANTS/SEALANT PRIMERS:** Except as provided in Section 306, a person shall not apply a sealant or sealant primer exceeding the VOC content, as applied (as determined per Section 268), in the following table:~~

<b>TABLE 304</b> <b>VOC CONTENT FOR SEALANTS AND SEALANT PRIMERS</b>	

<b>Type of Sealant/Sealant Primer</b>	<b><u>Prior to December 1, 1998</u> VOC Content gm/liter (lb/gal) less water and exempt compounds</b>	<b><u>Effective December 1, 1998</u> VOC Content gm/liter (lb/gal) less water and exempt compounds</b>
Architectural Sealant	250 (2.0)	250 (2.0)
Marine Deck Sealant	760 (6.2)	760 (6.2)
Marine Deck Sealant Primer	760 (6.2)	760 (6.2)
Non-membrane Roof Installation/Repair Sealant	300 (2.5)	300 (2.5)
Non-Porous Architectural Sealant Primer	250 (2.0)	250 (2.0)
Porous architectural sealant primer	775 (6.3)	775 (6.3)
PVC Welding Sealant	480 (3.9)	480 (3.9)
Roadway Sealant	250 (2.0)	250 (2.0)
Single-Ply Roof Membrane Sealant	450 (3.7)	450 (3.7)
Other Sealant	420 (3.4)	420 (3.4)
Other Sealant Primer	750 (6.1)	750 (6.1)

**3054 VOC CONTENT LIMITS, SURFACE PREPARATION, CLEANUP, AND STRIPPER SOLVENTS:** A person shall comply with the following requirements:

304.1 Materials used for surface preparation, cleaning, or stripping shall not exceed the VOC content and the VOC composite vapor pressure limits specified in the table below. The VOC content of the material as applied shall be determined pursuant to Section 502.1. The composite partial pressure shall be determined using Section 502.9. Except as provided in Sections 103.11, 306 and 307, and relative to the application of an adhesive or sealant product, a person shall not use a surface preparation solvent, a cleanup solvent, or a solvent used as a stripper exceeding the VOC content limit standard, as applied (as determined per either Section 266 or Section 268, as applicable), in the following table:

<b>TABLE <del>305</del> <u>304-1</u></b> <b>VOC CONTENT OF SURFACE PREPARATION, CLEANUP, AND STRIPPER SOLVENTS</b>		
Note: Where VOC limits are shown as both grams/liter and composite vapor pressure, either may be used as the content limit for the specific application shown.		
<b>Adhesive or Sealant Product Activity For Which the Solvent Is Used</b>	<b>VOC Content gm/liter (lb/gal) less water and exempt</b>	<b>VOC Composite Partial Pressure Millimeters of</b>



	compounds	Mercury at 20°C (68°F)
<b>Substrate Preparation Activity</b>		
Single-Ply Roof Membrane Installation/Repair	--	45
Electronic Components	900 (7.3)	33
Medical Devices	900 (7.3)	33
Other Substrates	70 (0.6)	--
<b>Cleanup Activity</b>		
Cleaning a Spray Gun in an Enclosed Gun Cleaner	--	less than 45
Soaking Application Equipment in a Closed Container	--	9.5
Application Equipment - No Closed Container, No Enclosed Gun Cleaner	70 (0.6)	--
Equipment Other Than Adhesive or Sealant Product Application Equipment	--	less than 45
<b>Solvent Stripping Activity</b>		
Adhesive or Sealant Products on Wood Substrates	less than 350	2
Adhesive or Sealant Products on Substrates Other Than Wood	--	9.5

[304.2 A person applying any surface preparation solvent, cleanup solvent, or any stripper must use only the following methods:](#)

[304.2.1 Wipe cleaning.](#)

[304.2.2 Non-propellant spray bottles or containers.](#)

[304.2.3 An enclosed gun cleaner as defined by Section 223.](#)

[304.2.4 Soaking application equipment parts in a closed container provided that the container does not exceed five gallons in size and the container is kept tightly covered at all times except when accessing the container.](#)

[304.3 Closed containers shall be used for the disposal of all VOC-containing cloth, sponges, papers, or other materials used for solvent cleaning.](#)

[304.4 All VOC-materials shall be stored in closed containers when not in use.](#)

~~**306 VOC CONTENT LIMITS LOW-SOLIDS MATERIALS:** For any low-solids material listed in the tables of Sections 302 and 304, the VOC content standard shall be expressed as "grams of VOC per liter of material" (Section 267), as applied. For any low-solids material listed in table 305, the VOC content standard, as applied, shall be expressed as "grams of VOC per liter of material" (Section 267) or as "VOC composite partial pressure" (Section 266), whichever is appropriate.~~

**3075 EMISSION CONTROL SYSTEM EQUIPMENT:** As an alternative [to utilizing materials that comply with the VOC limits in Sections 302 through 304.1](#), a person may ~~comply with the VOC limits specified in this rule, by using~~ [use](#) approved air pollution control system consisting of capture and control devices, which reduces VOC emissions from the use of adhesives, sealants, strippers or solvents, by an equivalent or greater amount than the

~~limits specified in Sections 302 through 305, with the written approval of the Air Pollution Control Officer. The minimum required overall capture and control efficiency of an emission system at which an equivalent or greater level of VOC reduction will be achieved, shall not be less than 85%, calculated by the following equation equipment provided that the equipment complies with the following:~~

~~305.1 The air pollution control equipment is approved by the Air Pollution Control Officer pursuant to Rule 501– GENERAL PERMIT REQUIREMENTS, and~~

~~305.2 The air pollution control equipment is designed and operated with:~~

~~305.2.1 A control equipment efficiency of at least 95 percent on a mass basis, as determined pursuant to Sections 408 and 502.5, and~~

~~305.2.2 An emission collection efficiency of at least 90 percent on a mass basis, as determined pursuant to Section 502.6.~~

$$\text{Overall Capture and Control Efficiency, \%} = \frac{\text{Cap Eff} - \text{X} - \text{Con Eff}}{-100}$$

~~Where: Cap Eff = Capture Efficiency, in Percent  
Con Eff = Control Efficiency, in Percent~~

~~308 **STORAGE AND DISPOSAL:** All VOC-containing materials used in applying adhesive or sealant products, such as surface preparation solvents; cleanup solvents and strippers; and cloth, paper, abrasive pads, and brushes moistened with solvents; shall be stored in non-absorbent closed containers with no liquid leaks. These containers shall be kept closed at all times except when such containers are being filled or emptied or when such containers are empty and dry.~~

#### 400 ADMINISTRATIVE REQUIREMENTS

~~401 **PROHIBITION OF SALE:** Except as allowed in Section 103.12, no person shall sell or offer for sale any adhesive or sealant product that does not meet the applicable VOC content limits specified in Sections 302 through 306. A person shall not supply, sell, solicit, or offer for sale, any noncompliant materials as defined in Section 241. The prohibition in this section shall apply to any material which will be applied at any physical location within the District.~~

~~402 **PROHIBITION OF SPECIFICATION:** No person shall solicit, require the use of, or specify the application of any adhesive or sealant product subject to this rule, or any surface preparation solvent, cleanup solvent, or stripper subject to this rule, if such use or application would violate this rule. The prohibition in this section shall also apply to all written or oral contracts under the terms of which any such product or solvent is to be applied within the District material subject to this rule, if the use or application would violate this rule. The prohibition in this section shall also apply to all written or oral contracts under the terms of which any such product or solvent is to be applied within the District.~~

~~403 **LABELING REQUIREMENTS FOR AEROSOL ADHESIVES:** For any adhesive or sealant product subject to this rule and manufactured on or after July 1, 1997, the product's manufacturer shall:~~

~~403.1 Display the following on each adhesive or sealant product container label and/or on the product's material safety data sheet:~~

~~403.1.1 The product's maximum VOC content as supplied.~~

~~403.1.2 Recommendations regarding thinning, reducing, or mixing with any material containing one or more VOCs (as defined in Section 270).~~

~~403.1.3 The maximum VOC content as applied, when the product is applied according to the manufacturer's recommendations.~~

~~403.2 Express the VOC content and/or the VOC Composite Partial Vapor Pressure content in accordance with the definitions, Section 200 and Standards, Sections 302 through 306 in this rule.~~

~~403.3 Use the applicable methods in Section 503 and calculations in Section 200 to determine VOC content and VOC Composite Partial Pressure.~~

All aerosol adhesives regulated under Section 303 shall comply with the labeling requirements, applicable to aerosol adhesives, specified in the California Consumer Regulations.

**404 OPERATION AND MAINTENANCE PLAN:** A person using ~~an~~ emission control ~~system~~ equipment pursuant to Section 307~~5~~ shall submit an Operation and Maintenance Plan for the emissions control device to the Air Pollution Control Officer for approval. This Plan shall specify operation and maintenance procedures that demonstrate continuous operation and compliance of the emissions control equipment during periods of emissions-producing operations. This Plan shall specify key system operating parameters necessary to determine compliance with this rule and describe in detail procedures to maintain the approved control equipment. The plan shall specify which records must be kept to document these operations and maintenance procedures. The records shall comply with the requirements of Section 501- Record-keeping. This Plan shall be implemented upon approval by the Air Pollution Control Officer. ~~as a means of alternate compliance with this rule, must submit, with the application for Authority to Construct, pursuant to Rule 501, General Permit Requirements, an Operation and Maintenance Plan for the emission control system to the Air Pollution Control Officer for approval. The Plan shall specify operating and maintenance procedures which will demonstrate continuous operation of the emission control system during periods of emissions-producing operations. The Plan shall also specify which records shall be kept to document these operating and maintenance procedures. These records shall comply with the requirements of Sections 501 and 502. The Air Pollution Control Officer shall determine whether the Operation and Maintenance Plan meets the requirements of this section not later than 30 days after receipt of the Plan, or within a longer period of time agreed upon by the parties. If the Air Pollution Control Officer does not approve an Operation and Maintenance Plan, the source shall receive written notice of the deficiency, and shall have an additional 30 days from the date of the notification of the deficiency to correct and resubmit the Operation and Maintenance Plan. The Plan shall be implemented upon approval of the Air Pollution Control Officer. A Plan not resubmitted with the deficiencies corrected on a timely basis shall constitute a violation of this rule.~~

**~~405 FEASIBILITY AND TECHNOLOGY ASSESSMENT, CONTACT ADHESIVES:~~**

~~By January 1, 1999, the Air Pollution Control Officer shall assess the feasibility of both the exemption expiration date provision in Section 103.8, and the final VOC limits for contact adhesives and whether new technology could provide additional emissions reductions to meet the District's Air Quality Management Plan objectives.~~

**405 CALCULATION FOR DETERMINING VOC CONTENT OF MATERIAL EXCLUDING WATER AND EXEMPT COMPOUNDS:** For the VOC content as applied, the volume of material is defined as the volume of the original material plus any material (e.g., thinners,

reducers, or catalysts) added to the original material. The weight of VOC per combined volume of VOC and material solids shall be calculated using the following equation:

$$G_1 = \frac{W_v - W_w - W_{ec}}{V_m - V_w - V_{ec}}$$

Where:  $G_1$  = Weight of VOC per volume of material, less water and exempt compounds, in grams per liter  
 $W_v$  = Weight of all volatile compounds, including any volatile materials added to the original material supplied by the manufacturer when calculating the VOC content as applied, in grams  
 $W_w$  = Weight of water, in grams  
 $W_{ec}$  = Weight of exempt compounds, in grams  
 $V_m$  = Volume of material, in liters  
 $V_w$  = Volume of water, in liters  
 $V_{ec}$  = Volume of exempt compounds, in liters

406 **CALCULATION FOR DETERMINING VOC CONTENT OF MATERIAL INCLUDING WATER AND EXEMPT COMPOUNDS:** For the VOC content as applied, the volume of material is defined as the volume of the original material, plus any material added to the original material (e.g., thinners or reducers). For the VOC content as supplied, the volume of material is defined as the volume of the original material. The weight of VOC per total volume of material shall be calculated by the following equation:

$$G_2 = \frac{W_v - W_w - W_{ec}}{V_m}$$

Where:  $G_2$  = Weight of VOC per total volume of material, in grams per liter  
 $W_v$  = Weight of all volatile compounds, in grams  
 $W_w$  = Weight of water, in grams  
 $W_{ec}$  = Weight of exempt compounds, in grams  
 $V_m$  = Volume of material, in liters

407 **CALCULATION OF PERCENT OF VOC BY WEIGHT:** The percent of VOC by weight is the ratio of the weight of the VOC to the weight of the aerosol adhesive or aerosol adhesive primer as supplied by the manufacturer, expressed as a percent of VOC by weight. The percent of VOC by weight shall be calculated as follows:

$$\text{Percent of VOC by Weight} = \frac{W_{voc}}{W_p} \times 100$$

Where:  $W_{voc}$  = Weight of VOCs in grams  
 $W_p$  = Weight of the adhesive or adhesive primer, as supplied by the manufacturer, in grams.

408 **CALCULATION FOR DETERMINING PERCENT CONTROL EFFICIENCY AND VOC MASS EMISSION RATE:** The VOC mass emission rate shall be calculated both upstream and downstream of the emissions control device and shall be based on the VOC mass concentration and volumetric flowrate, pursuant to Section 502.5 and the following equations:

408.1 **VOC Mass Emission Rate:**

$$M = (Q) * (C) * (60 \frac{m}{hr}) \text{ (calculated upstream and downstream)}$$

Where: M = VOC mass emission rate (upstream and downstream), in lb/hr.

Q = the volumetric flowrate at the inlet (upstream) or exhaust stack outlet (downstream), in standard cubic feet per minute as determined by Section 502.5.

C = the VOC mass concentration at the inlet (upstream) or outlet (downstream), in pounds per standard cubic feet, as determined pursuant to Section 502.5.

**408.2 The percent control efficiency is calculated as follows:**

$$\%CE = \left( \frac{M_u - M_d}{M_u} \right) * 100$$

Where: CE = control efficiency.

M<sub>u</sub> = the upstream VOC mass emission rate, in lb/hr.

M<sub>d</sub> = the downstream VOC mass emission rate, in lb/hr.

**409 CALCULATION FOR VOC COMPOSITE PARTIAL PRESSURE:** The VOC composite partial pressure is the sum of the partial pressures of the compounds defined as VOCs, and shall be calculated by the following equation:

$$PP_c = \frac{\sum_{i=1}^n \frac{(W_i)(VP_i)}{MW_i}}{\frac{W_w}{MW_w} + \sum_{e=1}^n \frac{W_e}{MW_e} + \sum_{i=1}^n \frac{W_i}{MW_i}}$$

Where: PP<sub>c</sub> = VOC composite partial pressure at 20°C, in mm Hg.

W<sub>i</sub> = Weight of the "i"th VOC compound, in grams, as determined by ASTM E 260-96

W<sub>w</sub> = Weight of water, in grams as determined by ASTM D 3792-99.

W<sub>e</sub> = Weight of the "e"th exempt compound, in grams, as determined by ASTM E 260-96.

MW<sub>i</sub> = Molecular weight of the "i"th VOC compound, in grams per g-mole, as given in chemical reference literature.

MW<sub>w</sub> = Molecular weight of water, 18 grams per g-mole.

Mw<sub>e</sub> = Molecular weight of the "e"th exempt compound, in grams per g-mole, as given in chemical reference literature.

Vp<sub>i</sub> = Vapor pressure of the "i"th VOC compound at 20°C, in mm Hg, as determined by Section 502.10 of this rule.

- 410 **PRODUCT INFORMATION REQUIREMENTS FOR SELLERS:** Any person who sells any material subject to this rule shall make available to the purchaser at the time of sale the following information:
- 410.1 The material type by name/code/manufacture;
- 410.2 For materials subject to Section 302: The maximum VOC content of the material as applied. The VOC content shall be displayed as grams of VOC per liter of material (or pounds of VOC per gallon), excluding water and exempt compounds. For low solids materials, the VOC content shall be displayed as grams of VOC per liter of material (or pounds of VOC per gallon), including water and exempt compounds;
- 410.3 For aerosol adhesives regulated under Section 303: The maximum VOC content as applied. The VOC content shall be displayed as percent by weight;
- 410.4 For materials subject to Section 304.1: The maximum VOC content and the total VOC composite partial pressure of the material as applied. The VOC content shall be displayed as grams of VOC per liter of material (or pounds of VOC per gallon), including water and exempt compounds as determined pursuant to Section 502.1. The composite vapor pressure shall be displayed in millimeters of mercury at 20 °C (68 °F) as determined pursuant to Section 502.9;
- 410.5 For all materials subject to Sections 302 and 304.1: Manufacturers' and Suppliers' recommendations regarding thinning, reducing, or mixing.

## 500 MONITORING AND RECORDS

### 501 RECORD-KEEPING:

In addition to any applicable record-keeping requirements of either Rule 502, New Source Review, Rule 507, Federal Operating Permit Program, Rule 511, Potential to Emit, or any other District rule which may be applicable, any person applying adhesive or sealant products, surface preparation solvents, cleanup solvents, or strippers subject to any provision of this rule shall maintain the following records in order to evaluate compliance:

- 501.1 Product Data: A list of currently used adhesive or sealant products, surface preparation solvents, cleanup solvents, or strippers shall be provided and maintained. The list shall include all of the following items for each material used:
- 501.1.1 The material's manufacturer, product name, and product number or code.
- 501.1.2 Classification according to the terminology used in Sections 302, 303, ~~304~~ and ~~305~~4. of this rule (e.g., "PVC Welding Adhesive", "Adhesive Applied to Metal", "Substrate Preparation", "Medical Devices", etc.).
- 501.1.3 The material's VOC content as applied, determined according to Sections ~~405, 406 and 407~~ 200, when used in the mixing ratios recommended by the manufacturer. ~~and labeled pursuant to Section 403.~~ Labeling of aerosol adhesive containers shall comply with the requirements of Section 403.
- 501.1.4 The actual mixing ratio, if different from the ~~manufacturers~~ manufacturer's recommendation, used in applying the material.
- 501.2 Product Usage and Frequency: Any person using materials regulated by this rule shall record and maintain records of the monthly usage of each individual material as listed pursuant to Section 501.1

501.~~23~~ Non-Complying Materials: Any person who uses materials exceeding the VOC limits specified in Sections 302, 303, ~~304~~, and 3054 and 306 shall record such usage on a daily basis showing the classification, product number and volume of materials used.

501.~~34~~ Emission Control System Records:

501.4.1 A person using ~~an~~ emission control ~~system~~ equipment as a means of alternate compliance pursuant to Section 30~~75~~, shall maintain records on a daily basis, showing the type and volume of coatings and solvents used.

501.4.2 A person using ~~an~~ emission control ~~system~~ equipment as a means of alternate compliance with this rule pursuant to Section 30~~75~~, shall maintain daily records of key system operating and maintenance procedures which will demonstrate continuous operation and compliance of the emission control system during periods of emission-producing activities. Key system operating parameters are those necessary to ensure compliance with the requirements of Section 30~~75~~, and are defined in Section 23~~43~~.

501.5 RETENTION OF RECORDS: All records required by this rule shall be retained for at least three years, except for sources subject to Rule 507, Federal Operating Permit Program, which shall be retained for at least five years. Such records shall be made available to the Air Pollution Control Officer upon request.

~~502 — RETENTION OF RECORDS: All records required by this rule shall be retained for at least three years, except for sources subject to Rule 507, Federal Operating Permit Program, which shall be retained for at least five years. Such records shall be made available to the Air Pollution Control Officer upon request.~~

**503~~2~~ TEST METHODS:**

503~~2~~.1 Determination of VOC Content: Except as provided in Sections 503~~2~~.2 and 503~~2~~.3, VOC content of non-aerosol adhesive or sealant products, surface preparation solvents, cleanup solvents, or strippers shall be determined in accordance with United States Environmental Protection Agency Method 24 or United States Environmental Protection Agency Method 24A.

503~~2~~.2 Determination of VOC Content of Aerosol Adhesives Primers: The VOC content of aerosol adhesive primers shall be determined using South Coast Air Quality Management District Test Method 305 for aerosol coatings, California Air Resources Board Method 310, "Determination of Volatile Organic Compounds (VOC) in Consumer Products", or equivalent methods approved by the United States Environmental Protection Agency.

503~~2~~.3 Determination of VOC Content of Plastic Welding Cement Adhesive/Primer: The VOC content of ABS, CPVC, PVC, or other plastic welding cement adhesive or any plastic welding cement primer shall be determined by using the South Coast Air Quality Management District's "Determination of Volatile Organic Compounds (VOC) in Materials Used for Pipes and Fittings", Method 316a.



- 5032.4 Determination of Compounds Exempt From VOC Definition: Exempt compounds referenced in Section 2254 and listed in Rule 102, Definitions, shall be determined in accordance with ASTM D 4457-85 or California Air Resources Board Method 432. If any of the perfluorocarbons or volatile cyclic and linear methyl siloxanes are being claimed as exempt compounds, the person making the claim must state in advance which compounds are present, and the United States Environmental Protection Agency approved test method used to make the determination of these compounds.
- 5032.5 Determination of Control Efficiency: Control efficiency of ~~the~~ emissions control ~~system~~ equipment shall be determined in accordance with United States Environmental Protection Agency Method 18, 25, or 25A; or United States Environmental Protection Agency Method 2 or 2C (whichever is applicable).
- 5032.6 Determination of ~~Capture~~ Collection Efficiency: Efficiency of the ~~capture~~ collection system shall be determined in accordance with the United States Environmental Protection Agency's "Guidelines for Determining Capture Efficiency, January 9, 1995". Individual collection efficiency test runs subject to the United States Environmental Protection Agency's technical guidelines shall be determined by:
- 5032.6.1 Applicable U.S. EPA methods 204, 204A, 204B, 204C, 204E, and/or 204F; or
- 5032.6.2 The South Coast Air Quality Management District "Protocol for Determination of Volatile Organic Compound (VOC) Capture Efficiency"; or
- 5032.6.3 Any other method approved by the U.S. EPA, the California Air Resources Board, and the Air Pollution Control Officer.
- 5032.7 Determination of VOC Content of Emissions: The VOC content of emissions shall be determined by United States Environmental Protection Agency Method 18.
- 5032.8 Determination of Plasticizer Content: The test method used to determine plasticizer content of flexible vinyls shall be ASTM Method E260-73, "General Gas Chromatography Procedures".
- 5032.9 Determination of VOC Composite Partial Pressure: VOC composite partial pressure shall be determined in accordance with ASTM E260-91 for organic compounds, and ASTM D 3792-86 for water content as applicable, and Sections ~~266~~ 409, and 5032.10 of this rule.
- 5032.10 Determination of Vapor Pressure: Vapor pressure of a VOC shall be determined in accordance with ASTM Method D2879-86, or may be obtained from standard reference texts, such as:
- 502.10.1a. "The Vapor Pressure of Pure Substances", Boublik, Fried, and Hala; Elsevier Scientific Publishing Company, New York.
- 502.10.2b. "Perry's Chemical Engineer's Handbook", McGraw-Hill Book Company.



[502.10.3](#)~~e~~ "CRC Handbook of Chemistry and Physics", Chemical Rubber Publishing Company.

[502.10.4](#)~~d~~. "Lange's Handbook of Chemistry", John Dean, editor, McGraw-Hill Book Company.

[502.11 Determination Of VOC Content Of Cyanoacrylate Adhesives: The VOC content of cyanoacrylate adhesives shall be determined by the South Coast Air Quality Management District's Method 316B.](#)